Forest Plan

Monitoring and Inventory Report

Tonto National Forest

Fiscal Year 2012

United States Forest Service

Southwestern Region

March 2013

Contents

Introduction

Rising from the Sonoran Desert to the pine-covered slopes of the Mogollon Rim, the Tonto National Forest (Tonto NF) covers nearly three million acres and is the fifth largest national forest in the nation. The forest spans a range of ecosystems from the legendary Sonoran Desert with its unique flora and fauna, through a variety of chaparral, up to the mixed-conifer forest of the Rim country, all connected by a series of breathtaking drives. The forest's desert landscape is dotted with reservoirs and streams, which support warm water fisheries and a full range of water-based recreation activities. Prehistoric and historic cultural resources are located throughout the forest, serving as valuable reminders of the past.

The forest lies near the edge of Phoenix, the fifth largest city in the United States, and hosts over six million visitors a year. With its easy access for intensive day-use activities, as well as rugged backcountry areas that provide many opportunities for challenge and solitude, the forest offers a wide variety of recreational opportunities.

The Tonto NF is comprised of six ranger districts (RD): Cave Creek, Globe, Mesa, Payson, Pleasant Valley, and Tonto Basin (figure 1).

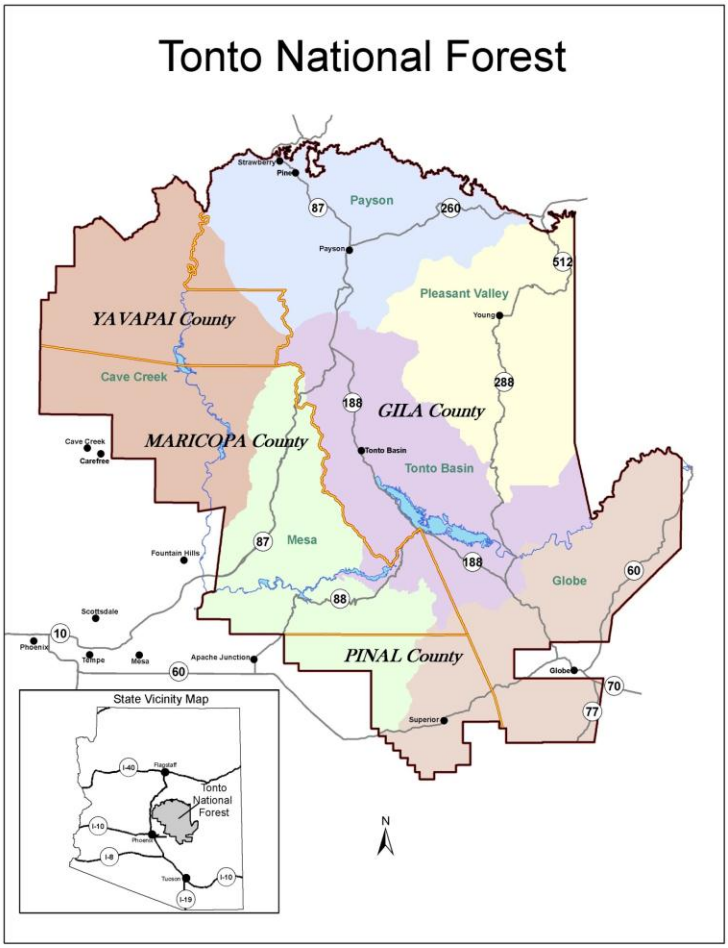

Figure 1. Tonto National Forest

The Cave Creek Ranger District encompasses 570,000 acres, transitioning from arid Sonoran Desert in the southern portion, through chaparral vegetation, to ponderosa pine in the northern portion. Because of its proximity to the Phoenix metropolitan area, it is one of the most heavily-used ranger districts on the forest. The ranger district is bounded by the large metropolitan urban interface to the south and southwest, the Aqua Fria National Monument to the west, and other National Forest land to the north. The eastern boundary with Mesa Ranger District runs through the Mazatzal Wilderness.

Globe Ranger District surrounds the towns of Globe, Claypool, Miami, and Superior. Portions of the ranger district are within a 30-minute drive of the Phoenix metropolitan area. The close proximity to local populations makes adjacent forest lands easy to access and use for a variety of recreational activities.

The Mesa Ranger District is characterized by its vast desert landscape surrounding Saguaro and Canyon lakes, and the Lower Salt River all with nearby developed campgrounds. Also included are the Superstition and Four Peaks Wilderness areas and over 250,000 acres of undeveloped lands used by a variety of forest visitors for dispersed recreation.

The close proximity of the Payson Ranger District makes it easy for the local populace to participate in a variety of recreational activities including hunting, camping, hiking, and motorized vehicle use. Due to the dispersed nature of the private property in-holdings there is little to no “remote” country outside of designated wilderness on the ranger district. Payson RD has elevations exceeding 5,500 feet.

Pleasant Valley Ranger District has large areas of land in elevations above 5,500 feet. The ranger district surrounds the unincorporated town of Young, whose population varies from 500 to 800 seasonally, and the smaller communities of Colcord Estates and Ponderosa Springs. All three communities have year round populations, but also have many vacation or second homes. The Canyon Creek area, where there are campgrounds and easy access to State Road 260, has the highest concentration of elk within the ranger district.

The Tonto Basin Ranger District encompasses approximately 530,000 acres of desert, semidesert grassland, and chaparral types of vegetation, as well as a few scattered areas of ponderosa pine. Roosevelt Lake (the largest lake within Arizona) and Apache Lake are favored by campers, picnickers, and fishermen.

The Tonto NF is an important part of Arizona’s natural heritage. The land, forests, lakes, streams, fish, and wildlife provide places to recreate, food sustenance, and fuel the engines of our economic activities. Managed for today’s needs without compromising the needs of future generations, the Tonto NF provides for a full spectrum of uses. When a forest is managed properly, it can provide diversified value for a variety of habitats for wildlife, numerous recreational opportunities, scenic landscapes, jobs which help support a rural lifestyle, clean air, stable soil, high quality water, and wood products which we need daily, and healthy forests for the future.

Our commitment to the land and people, who use it, has prompted a management strategy that contributes to ecological, social, and economic sustainability. Work toward achieving the desired future condition of the forest is guided by our Land and Resource Management Plan (Forest Plan), which was adopted in 1985. The Forest Plan represents one integrated plan, which guides all resource management activities on the forest.

There were no amendments to the Forest Plan in fiscal year 2012 (FY 2012). Until the Forest Plan goes through a revision process, amendments will continue to be used to keep the existing document current. An electronic version of the present Forest Plan and its amendments are available at Current Tonto National Forest Plan. The Tonto NF projects the Plan revision process will begin in 2014.

Accomplishments made in achieving Forest Plan goals and objectives are contained in this report. Forest Plan monitoring is an ongoing process that assesses the response of forest environment to management activities undertaken to move the forest from an existing condition to an expected future condition as described in the Forest Plan. By evaluating the results of the monitoring plan, the forest is able to better identify future research needs and to shift monitoring activities to more effectively measure overall forest health.

Cultural Resources

The forest regularly surveys for potential cultural resources prior to on-the-ground land management activities such as road construction, campground development, and vegetative treatments. Pre-project monitoring of implemented projects where archeological sites are present consisted of ensuring that sites were properly identified and marked for avoidance, checking the sites, and removing identification boundary markers once the project was completed. It is not uncommon that sites are visited more than once during the life of a project to ensure that they are protected. All projects with a potential for ground disturbance or disruption of traditional Tribal activities are reviewed to ensure heritage resources are not disturbed.

The Tonto NF conducted inspections at various levels (partial up to 100 percent) on those projects completed by Forest Service personnel and on those completed by contractors and consultants, who operate under permit (in-service vs. out-service). These inspections sought to discover if as much as could be expected was found and that objects or sites were described, interpreted, and evaluated properly. Projects were inspected as they were being implemented or after completion to ensure that the conditions of clearance were followed (e.g., sites were avoided the sites as required).

The Tonto NF manages several hundred archaeological and historic sites (out of more than 10,000 inventoried) as priority heritage assets, including 34 properties that comprise 100 individual sites or structures listed as *National Register Properties*. Since a number of these sites are actively being used, many are visited throughout the year by heritage resource management personnel. Those *National Register* properties that are not used on a daily basis are visited less regularly, but most priority heritage assets are inspected at least every five years. Lesser priority sites are customarily checked by forest personnel as the opportunity arises. Listed *National Register Properties* and other priority heritage assets remain in fairly stable condition with no major impacts having altered their historic integrity.

Table 1. Heritage FY 2012 Monitoring and Inventory

Activity	Number Accomplished
1) New Properties Inventoried	117
2) New Interpretive Project	0
3) New Outreach Projects	8 projects
4) Total Heritage Volunteer Hours	3,800+ hours
5) Protected Sites	295 sites

Forest heritage personnel conducted two Passports in Time volunteer projects during FY 2012 and a number of public outreach presentation and site tours. Fiscal Year 2012 also saw the repair and stabilization of the dry stone masonry powder magazine associated with the historic Horse Mesa Dam construction camp and the completion of construction on a protection fence around the cemetery for the historic Pinal Townsite as part of a long-term project known as the Legends of Superior Trails.

Fish and Wildlife

Habitat conditions for game and nongame wildlife species, fish, and rare plants are managed to maintain populations across the forest. Special emphasis is provided in the management, protection, and recovery of federally-listed threatened and endangered species (T and E).

The forest's status report of 28 management indicator species (MIS) indicates that population trends of 25 species are stable and 3 are in decline. The forest coordinates with the Arizona Game and Fish Department (AZGFD), which monitors game species population and trends. In 2012, the forest and Rocky Mountain Bird Observatory designed and initiated a systematic monitoring protocol to monitor changes in management indicator species. We established two strata (high and low elevation), and sampled 13 plots in high elevation stratum and 24 in low-elevation stratum. This data will be used to monitor population changes in MIS.

The Tonto NF is host to 79 threatened, endangered, and/or sensitive species. Threatened and endangered species are officially designated by the U.S. Fish and Wildlife Service, because the viability or continuation of the species' population is at risk. Protection and enhancement of these listed species and their habitat is required under the *Endangered Species Act*. Habitat quality or quantity is often a major reason for a species' decline. It is incumbent on the forest to ensure management actions on the forest do not contribute further to a listed species' decline. It is also the forest's responsibility to implement recovery actions identified in recovery plans within the forest's jurisdictional responsibilities. Sensitive species are those species whose populations are of some concern because of overall declines or risks from land management activities on the forest. These species are designated by the Regional Forester and require that management activities not contribute to declines in the species that might affect population viability. During FY 2012, 13 biological assessment and/or evaluations were prepared. The current Southwest Region Sensitive Species list was recently approved in 2012 based on new Regional criteria. Some species were added while others were dropped.

The forest has approximately 500 miles of fishable stream and 29,530 acres of lake habitat. There are about 40 species of fish on the forest, of which 20 are considered game species. There are seven threatened and endangered fish species on the Tonto NF, including desert pupfish, Colorado pikeminnow, razorback sucker, and Gila topminnow. There are an additional two sensitive fish species.

Monitoring of bald eagles, a forest sensitive species, continued in partnership with Southwestern Bald Eagle Management Committee. Six teams of nestwatchers on Tonto NF monitored populations of bald eagles and also educated the public about the closure areas to protect the eagles. In 2012, Tonto NF had 19 occupied bald eagle breeding areas and produced 25 fledglings.

Monitoring of southwestern willow flycatchers continued on Tonto Basin and Globe ranger districts. We monitored 1 patch in Globe Ranger District with 8 territories; and we monitored 10 patches in Tonto Basin Ranger District with 34 territories.

Monitoring of Chiricahua leopard frog populations continued in 2012 on the Payson and Pleasant Valley ranger districts. Populations in Payson are thriving, breeding, and expanding on their own. In 2012, Payson has a total of 15 populations (10 are confirmed breeding), and Pleasant Valley has a total of 7 populations (3 are confirmed breeding).

Monitoring of known locations of Mexican spotted owl, a federally threatened species continued. Of the 72 MSO PACs within Tonto NF, 17 were monitored. Of those monitored, only 7 were known to have occupancy.

Insect and Disease

Annual insect and disease aerial detection surveys, conducted by the Rocky Mountain Research Station, showed that bark beetle activity increased statewide in 2012. On the Tonto NF, bark beetle activity increased from 92 acres in 2011 to 1,673 acres in 2012. Most bark beetle-caused tree mortality occurred in the ponderosa pine type. Western pine beetle affected 475 acres and Ips bark beetle affected 1,193 acres. Most activity occurred on the Pleasant Valley Ranger District south of Young, in the Pinal Mountains and along the Mogollon Rim. Most bark beetle activity occurred in and adjacent to previously burned areas. Five acres of Douglas-fir beetle activity were mapped near the Mogollon Rim.

A total of 265 acres of defoliated or declining aspen were mapped, mostly in the Pinal Mountains. Aspen defoliation was mapped on 73 acres, and was likely caused by the western tent caterpillar. Aspen decline was mapped on 192 acres. In addition to mortality, living aspen in these areas have thin crowns with extensive branch mortality. Although aspen defoliation was the only type of defoliation detected during the aerial survey this year, Douglas-fir tussock moth monitoring indicated the average number of moths trapped at the Pinal Mountain location is increasing.

The survey found 145 acres of foliage discoloration. This was a combination of foliage discoloration caused by leafhopper feeding on walnuts near Young and frost damage in the Colcord area. Widespread shoot dieback was noted in multiple tree species across the forest. A

late spring frost event over the 2012 Memorial Day weekend damaged emerging vegetation across much of northern Arizona. This damage is not expected to lead to mortality.

Noxious Weeds

The Tonto National Forest's invasive plant management program is composed of three basic components: education, control, and prevention.

Tufted evening primrose planted near Camp Creek recreation residence area

Education

Education includes reaching out to our partners and the public to raise awareness of the issues of invasive species, how to prevent their spread, and how to control them.

The forest continued a cooperative relationship with the Las Sendas Community Association in FY 2012. This community abuts the forest just south of the Lower Salt River Recreation Area. The community and the forest jointly created a powerpoint presentation, which explains the hazards of noxious weeds and methods to effectively control them. This presentation will be used by community members to educate homeowners associations in other communities in the vicinity of the greater Phoenix metropolitan and forest interface area. A training session was held at the Mesa Ranger District, where Las Sendas and Wilderness Challenge volunteers learned to identify six invasive weed species and inventory methods. Several new infestations of buffelgrass and fountain grass have been recorded on the Mesa Ranger District.

The forest has also continued to work with the Town of Superior Public Works Department to educate them on the proper use of herbicides and how to identify noxious weeds that occupy sites throughout the town. The forest and the Town of Superior jointly applied for a grant in 2010 enabling the town to acquire a mobile ground sprayer. This grant also assists the town to contract to complete NEPA, making them eligible for federal grant funds to control weeds in the future. Of the $15,500 RAC grant that was received in 2010, $7,500 was spent on a 500-gallon mobile spray unit that will be shared by the Tonto NF and the town. Instead of using the remaining funds to conduct NEPA, which would authorize the town to spray weeds as was planned; the Forest completed a NEPA categorical exclusion allowing the remaining $8,000 to be redirected and used for noxious weed control projects in Superior.

Work continues with the Town of Star Valley, in sharing two RAC grants to control their yellow starthistle infestations.

The forest's noxious weed program manager served on the program committee for the 15th Annual Conference of the Southwest Vegetation Management Association, a statewide weed organization. She also regularly attends the Tonto Natural Resource Conservation District meetings and provides updates on the forest's weed management program.

Control

A total of 736.8 acres of invasive plant control was accomplished in fiscal year 2012. Herbicides were used to complete 94 percent of the weed control work; the remaining 6 percent was

performed manually. No mechanical treatment was completed. This represents an acreage increase of 3 percent treated in FY 2012 compared with FY 2011. See table 2 below.

Table 2. Noxious weed treatments by treatment type and ranger district

Ranger District	Manual treatment acres	Herbicide treatment acres
Cave Creek	0.4	137.4
Globe	6.8	0.0
Mesa	7.6	386.9
Payson	13.0	8.0
Pleasant Valley	12.6	7.6
Tonto Basin	1.8	154.7
Tonto National Forest Total	**42.2**	**694.6**

Forest Supervisor Neil Bosworth signed the Decision Notice for the Tonto National Forest's Environmental Assessment for Integrated Management of Noxious or Invasive Plants in August 2012. The Regional Office dismissed the one appeal that was filed.

The forest sponsored two volunteer events to remove sweet resinbush from the Miami Cemetery site on Globe Ranger District. Arizona State University professors and students adopted this site and use it for field experience to apply measurement methods they have learned in the classroom. After the measurement exercise, the students and professors work for a few hours to remove this invasive plant.

Two unusual infestations were discovered this year: a camelthorn site found when conducting inventory for a highway preservation project along State Road (SR) 87, and several sites with globe chamomile growing along SR 87, many miles from other globe chamomile. The camelthorn site was the second one that has been found on the Tonto NF. It was promptly treated by Arizona Department of Transportation (ADOT). The globe chamomile sites were found to have been planted by an ADOT contractor, who had to reseed some patches of landscaping. There was an apparent lapse in following seed testing protocol of the seed used for this reseeding. As soon as the forest weed program manager discovered the new infestations in spring of 2012, ADOT was notified and had their subcontractor manually remove the plants, which had already flowered and were producing seed. ADOT agreed to put down a pre-emergent herbicide in the fall of 2012, in order to control the next generation of germinating seeds on these sites. Further control measures may be required in FY 2013 and possibly in future years.

Arizona grape grown from native seed and planted

For the month of June 2012, the noxious weed program manager was detailed to the Apache-Sitgreaves national forests to manage a project mapping and controlling invasive plants within the boundary of the Wallow Fire. All sites discovered were mapped using GPS, and data was entered into the NRIS database. Nearly all invasive species found were controlled either manually or with herbicide backpack sprayers.

Prevention

The forest works actively with ADOT and Maricopa County Department of Transportation to prevent weed spread during highway construction and maintenance activities. ADOT pays for the forest's noxious weed program manager to survey and provide their contractor with a weed map for each highway project on the forest. ADOT does not allow contractors to begin work until all noxious weeds in the project area have been controlled. The contractor is obligated to continue weed control throughout the landscape establishment phase of each highway project. Major projects in FY 2012 include continuation of the Dos S project on State Road 87 (5.35 miles), Doubtful Canyon project on State Road 260 (4 miles), and 2 pavement preservation projects on State Road 87 totaling approximately 10 miles.

Re-establishing clematis near Camp Creek

Forest Noxious Weed Program Manager Patti Fenner and Cave Creek Ranger District employees spent considerable time carrying out a native plant revegetation project in the Camp Creek recreation residence area. The Tucson Plant Materials Center grew seeds that had been gathered by the Tonto NF of many native plants growing in the vicinity of Camp Creek including: monkey flower, deer grass, desert penstemon, tufted evening primrose, slimleaf bean, Dutchman's pipe, clematis, three different species of four-o'clock, Janusia, Arizona grape, columbine, roving sailor, skunkbush, and datura. The plants were delivered in early December and early May. Volunteer days were organized and some Camp Creek residents participated by planting their own lots. Fire crews from Cave Creek and other ranger districts, and district range and wildlife personnel provided support for the project by dedicating many hours to weekly watering of nearly 1,500 plants to improve their survival rate. A final count will be completed in FY 2013 to determine survival of the various species.

Range

As one of many multiple uses, the forest administers over two million National Forest acres in 95 active livestock grazing allotments. In FY 2012 an estimated 1,354,311 acres of rangeland were evaluated and administered to standard across the forest. All range allotments with threatened and/or endangered species were monitored for compliance with *Endangered Species Act* Section 7 consultation agreements and were found to be in compliance.

Livestock grazing is monitored through inspections to determine short-term needs for adjustment in stocking numbers and through use of data collected for analysis of grazing projects as required by NEPA. Monitoring was accomplished by forest personnel, volunteers, and permittee contractors. Short-term adjustments in stocking levels are based on forage plant vigor and production and livestock water availability.

Rangeland conditions are difficult to measure directly on an annual basis because of climatic conditions that can affect herbaceous growth, litter production, and species diversity. Therefore, indicators of changes in condition, such as type and quantity of plant species present, are used to compare plot data from the forest's ecological inventory and current rangeland health field inspection information with Terrestrial Ecosystem Survey information to estimate site potential and changes in plant and soil condition. This combination of management tools has generally resulted in favorable condition assessments, with possible exceptions near watering locations where livestock, wildlife, and recreational activity typically concentrate. Management actions are taken, where needed, to ensure that rangeland conditions in not in a declining trend.

Livestock numbers increased with authorized use stocking level of 17,720 head of livestock in FY 2012. In response to the ongoing drought, however, authorized numbers for 2012 were still well below permitted numbers, with the entire forest stocked at about 68 percent of permitted cattle numbers. Authorized numbers are shown in annual operating instructions (AOIs), which are documents given ranchers, usually in January. The authorized number may vary from year to year depending on range conditions, rainfall, or a rancher's request to take nonuse for his convenience. Authorized numbers may not exceed permitted numbers shown in grazing permits.

Table 3. Range Monitoring

Activity	Quantity
Improved Range Vegetation	56,587 acres
Grazing Allotment Administered to Standard	1,354,311 acres
Authorized Livestock Numbers	17,720 head
NEPA Documents for Grazing Decisions	2 each

Recreation

The Tonto National Forest offers a variety of dispersed, developed, and wilderness recreation opportunities to approximately 5,000,000 visitors per year (NVUM, 2008). The developed recreation program serves approximately 2,000,000 million visitors per year.

The goals established in the Forest Plan for recreation include:

- To maintain and enhance visual resource values by emphasizing recreation resource management, which will increase opportunities for a variety of developed and dispersed experiences;
- To provide for those developed sites needed to meet most of the public demand and to support dispersed visitor use; and
- To emphasize visual quality objectives in all resource planning and management activities.

In addition, there is an opportunity to meet the needs of handicapped visitors during construction and reconstruction of recreation sites.

Table 4: List of recreation accomplishments

5 Accomplishment Categories	Accomplishment
Recreation site capacity maintained to standard	1,425,000 PAOTS*
Number of buildings in recreation sites that meet accessibility standards	305 each

5 Accomplishment Categories	Accomplishment
Recreation site capacity that meets accessibility standards	25,178 PAOTS
Number of recreation special use permits administered to standards	64 permits
Miles of trail maintained to standard	109.4 miles

***PAOTS = Persons At One Time**

Riparian Condition

The Forest Plan is clear in its intent regarding the importance and management of riparian areas, including maintaining and improving wildlife and/or aquatic species habitat and enhancing riparian ecosystems by improved management.

As part of project level analysis in 2012, 42 stream reaches were assessed for condition and function using the Tonto Stream Assessment Method (Mason & Grove, 1999). There are a number of assessment methods used to assess stream condition in the Tonto Stream Assessment Method. The riparian assessment is one of the methods. It looks at the condition of a number of riparian elements and scores them. The score for each individual element is summed for an overall score and rated based on the percent that the cumulative score is of a best possible score. Subsequent monitoring is compared with the percent score of previous monitoring. There is no real baseline, only the score from previous monitoring efforts. Generally, riparian area management has improved, and there is an increased awareness of riparian area management needs.

The riparian area photo-point program remains the primary effectiveness monitoring occurring on the forest. There were 150 permanent photo points rephotographed in 2012. Ten new sites were also established.

Timber and Other Forest Products

Over 3,600 CCF (3,600 hundred cubic feet or 360,000 cubic feet) of merchantable tree products were sold from this Forest in FY 2012, with a total value of $31,000. About 6,300 CCF were removed, with a total value of $45,000. The numbers differ because some timber sale contracts

Bearhide Timber Sale before Treatment

Bearhide Timber Sale after Treatment

span several years. If this material were all converted to cords, it would amount to about 4,500 cords sold and 7,900 cords removed. The volume sold and removed includes timber sales and over-the-counter fuelwood permits. The number of fuelwood permits sold increased slightly in FY 2012. About 1, 100 paid permits and 260 free use permits for fuelwood were issued in FY 2012.

The Tonto NF's first stewardship project, Ponderosa Timber Sale Stewardship, continued operations in FY 2012. This project includes removal of 2,900 CCF of merchantable timber and fuels treatment on 526 acres. Fuels treatment was also accomplished on about 400 acres of the Bearhide Timber Sale, as the logging contractor removed chipped material.

Christmas tree permits were issued from the Payson and Pleasant Valley ranger districts. A total of 368 Christmas tree permits worth $5,850 were sold in FY 2012.

Transportation Management

The Tonto NF currently provides about 450 miles of roads designed for passenger vehicles and over 3,200 miles designed for high clearance vehicles. In FY 2012, maintenance work occurred on 518 miles (approximately 276 miles of high clearance system roads and 242 miles of passenger car system roads). Annual road maintenance needs were met by using Forest Service staff, county maintenance staff, and local contractors. The forest was able to accomplish road maintenance and improvement work that provided for user safety and protection of natural resources. Some examples of projects were:

- Improvement of Forest Road (FR) 423 restoring the surface through a chip seal project. This project was accomplished by an agreement with Gila County.
- Improvement of Forest Road (FR) 64 (Control Road) by replacing seven bridges. This project was accomplished in cooperation with the Federal Highways Administration's Central Federal Lands Division.

The forest also continued its efforts to comply with the Travel Management Rule in FY 2012. Ongoing efforts for travel management planning included: gathering specific road and motorized trail data, and signing routes. The Tonto NF Travel Management Plan is expected to be signed in early FY 2014, after completion of the Travel Management Environmental Impact Statement.

Visibility/Air Quality

Monitoring for visibility in Class 1 areas is ongoing. The forest monitors visibility through the Interagency Monitoring of Protected Environments (IMPROVE) network using monitors located in or adjacent to forest lands. The IMPROVE network is operated by University of California at Davis Crocker Nuclear Laboratory. The monitors detect aerosol particles in the air, which scatter light and cause a "hazy" effect in the air.

Goals for regional visibility are to meet or exceed baseline conditions by 2054. Monitoring continues to show that aerosol particles in the Sierra Ancha Wilderness and the Superstition Wilderness are decreasing and therefore, visibility is improving.

Visual Quality

The Tonto NF is currently inventorying all lands on the forest using the new Scenery Management System (SMS), which will be completed in FY 2014. The new SMS inventory will replace the Forest Visual Resource Inventory, which dates from 1985.

Watersheds

Watershed condition assessment for the Tonto NF was completed for all HUC6 watersheds using the Watershed Condition Classification Technical Guide (U.S.F.S., 2011) in FY 2011. The assessment process rated each watershed on the basis of 12 watershed condition indicators and resulted in an assignment of each watershed into one of three condition classes:

Class1 = Functioning Properly,
Class 2 = Functioning at Risk,
Class 3 = Impaired Function.

Watershed condition on the Forest Service-only portion of HUC6 watersheds was rated as functioning properly on 19 watersheds, functioning at risk on 122 watersheds, and impaired function on 37 watersheds in FY 2012. This reflects no change from FY 2011.

A Watershed Restoration Action Plan was completed for Camp Creek in FY 2011 that identified projects needed to improve watershed condition in this watershed. The forest began implementing the projects included in the plan in FY 2012 by removing nonnative species and planting native species along a perennial reach of Camp Creek and by obliterating up to five miles of unauthorized motorized routes in the watershed.

The Tonto NF is currently conducting a terrestrial ecosystem survey (TES) of the forest. This project will provide an inventory of the soil and vegetation resources on the forest. The TES crew inventoried approximately 180,000 acres in FY 2012. Information provided in this survey will be valuable for assessing watershed condition. This survey is expected to be completed in about two years.

The forest is also currently conducting an inventory of its developed water sources to prepare for a general adjudication of the state's water rights. In FY 2012 approximately 115 water sources were inventoried. The inventory involves: determining and photographing the location of the water source

(with GPS), describing the development's condition and dimensions (particularly stock tanks), measuring the flow (especially of springs), identifying the type and condition of riparian vegetation at the source, and recording types of uses occurring at the source (e.g., livestock, wildlife, recreation).

The Tonto NF completed instream flow assessments on six streams for which instream flow water rights are sought, bringing the total number of assessments completed on the forest to 22.

The Tonto NF completed Burned Area Emergency Response (BAER) Assessments for nine fires that burned over 52,000 acres on the forest in FY 2012. BAER treatments were recommended and implemented on four fires; Tanner, Poco, Mistake Peak, and Sunflower. These fires burned roughly 38,700 acres.

Wilderness and Wild and Scenic Rivers

Seven wilderness areas on the Tonto NF comprise more than 820,000 acres of rugged backcountry where opportunities for primitive and unconfined recreation and solitude may be found. Wilderness comprises approximately 22 percent of the forest. Approximately 3,000,000 visitors to the Tonto NF enjoy dispersed recreation and more than 150,000 enjoy visiting wilderness.

The Tonto NF continues working towards meeting the Wilderness Stewardship Challenge set forth by Chief Bosworth in 2004. The Challenge calls for each wilderness area administered by the forest to meet a score of sixty, based on points awarded in ten categories. These include fire plans, education plans, solitude, recreation site surveys, and invasive species surveys. Salt River Canyon's score continues to improve and no wilderness scores below forty points. Between fiscal year 2011 and 2012, the Tonto NF improved the overall scores of the wilderness areas by fifty percent and received full points for both the fire plan and outfitter-guide categories. Individual categories are complete for the Sierra Ancha Wilderness including invasive plant and recreation site surveys. Education plans were developed for wilderness and trails, and the campsite inventory continues to improve. Additional work is needed to reach sixty points for each wilderness with the exception of the Salt River Canyon; however, the forest is on track to reach this goal by 2014.

Portions of two wild and scenic rivers, the Verde and Fossil Creek, flow through the Tonto NF. The forest works cooperatively with the Coconino and Prescott national forests to protect and enhance outstandingly remarkable values and free-flowing conditions within these river corridors. River rangers assigned to the Coconino National Forest regularly patrol the Verde River, cleaning up campsites and making visitor contacts (table 5).

Table 5. FY 2012 Verde River Activities

Activity	Quantity
Patrol Trips	17 Trips
River Patrol Days	69 Days
Hours Worked	USFS – 2,168 Prescott College – 200 C-REC – 860 Volunteers – 512 **Total 3,740 hours**
Hours Worked (logistics for volunteers	424 Hours
River Contacts	473 Contacts

Activity	**Quantity**
Fire Rings Destroyed	40
Trash Collected	58 bags 1 propane tank 2 coolers 13 tires 1½ canoes 1 55 gal. drum 1 lot abandoned camp gear **Total 2,840 lbs.**

References Cited

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Appendix A: Amendments to the Forest Plan

The *National Forest Management Act of 1976* requires that Forest Land and Resource Management Plans be revised after 15 years. The Tonto National Forest Plan was approved by the Regional Forester in October 1985. Since its approval, the Plan has been amended 27 times as follows:

Amendment 1: August 1988: Allows State of Arizona to install and operate transceiver on Hutton Peak.

Amendment 2: August 1988: Corrects test reference to Table 3 & 4 and provides capacity for jeep tours.

Amendment 3: August 1988: Expands forestwide prescriptions, Standards and Guidelines (S&G's), in accordance with the court settlement of litigation – Save the Jemez/State of New Mexico vs. Forest Service.

Amendment 4: August 1988: Corrects text reference to Table 3 & 4 and allows commercial rafting on Tonto Creek from Gisela to 76 Ranch (July 1 - November 30) and 76 Ranch to Gun Creek (yearlong).

Amendment 5: August 1988: Moves construction of Haigler Creek Campground from 2nd period to 1st period.

Amendment 6: August 1988: Allows rafting on sections of the Verde River.

Amendment 7: May 1990: References Wilderness Opportunity Spectrum and Wilderness Management Plans.

Amendment 8: October 1990: Allows tour boat operations on Saguaro and Canyon lakes.

Amendment 9: November 1990: Increases river rafting allocations on the Upper Salt River.

Amendment 10: April 1991: Adds reforestation acres for rehabilitation of the Dude Fire.

Amendment 11: April 1991: Designates Crouch Mesa as an administrative electronic site and allows installation and operation of solar-powered microwave repeater.

Amendment 12: April 1991: Designates New River Mesa as an administrative electronic site and allows installation and operation of solar-powered microwave repeater.

Amendment 13: August 1991: Amends outfitter/guide allocations in Management Area (MA) 1E, including increases in rafting allocations on the lower Verde River below Horseshoe and Bartlett reservoirs.

Amendment 14: August 1991: Amends outfitter-guide allocations in MA 3F.

Amendment 15: January 1992: Classifies recreation residences at Diamond Point, Ellison Creek, Thompson Draw, and Washington Park as base for exchange.

Amendment 16: July 1992: Modifies the number of commercial outfitter-guide permits available in MA 2A, 3B, 3C, 3D, 6B, 6D, and 61 (Superstition and Four Peaks wildernesses).

Amendment 17: February 1993: Modifies the number of commercial outfitter-guide permits available in MA 5A, 5C, and 6H (Sierra Ancha and Salome wildernesses).

Amendment 18: June 1993: Modifies the number of commercial outfitter-guide permits available in MA 1B, 1C, 1D, 3A, 4B (west ½ Mazatal Wilderness) and 4C and 5B (Hellsgate Wilderness).

Amendment 19: March 1994: Changes designation of Buckhorn Mountain and Haufer Wash Research National Areas from proposed to existing.

Amendment 20: May 1995: Modifies outfitter-guide permit allocations for MA 1F, 2D, 2F, 3F, 4D, 4F, 5D, 5E, 5G, 6C, and 6F, and minor housekeeping correction for recreation and residence areas located in 1F, 2D, 4D, and 6F.

Amendment 21: May 1995: Adds Standards and Guidelines pertaining to cave resource management and housekeeping consolidation of S&G's pertaining to cultural resources.

Amendment 22: June 1995: Adds Standards and Guidelines pertaining to management of Mexican spotted owl, goshawk, and old-growth habitats.

Amendment 23: June 1997: Allows installation and operation of a microwave repeater on Pinto Mesa for the telephone system serving the Rockhouse Community.

Amendment 24: June 2004: Incorporates the Verde Wild and Scenic River *Comprehensive River Management Plan* into the Forest Plan.

Amendment 25: April 2007: Updates present fire management language to be in compliance with the 2001 *National Fire Plan* and 2005 Wildland Fire implementing procedures, which allows the use of wildland fire as a management tool.

Amendment 26: January 2009: Designation of Energy Corridors in 11 Western States.

Amendment 27: July 2009: Amends plan language to make Camp Creek Recreation Residence consistent with plan direction for riparian condition, percent ground cover, and roads location.

On May 3, 2011, the Tonto National Forest Plan Glossary was updated to include recent changes in fire management terminology. None of the corrections made any changes to the intent of existing Forest Plan direction or required a forest plan amendment.